

MEDIA RELEASE

MICROMIRROR TECHNOLOGY FOR SMARTPHONES: THE NEXT BIG THING

A*STAR Institute of Microelectronics and OPUS Microsystems Collaborate to Advance Technology for Larger Screen Viewing Experience with Smartphones

1. **Singapore, 16 July 2013** – With consumers using smartphones as a mobile entertainment centre, the ability to project photos and videos on any surface may soon become the norm. A*STAR Institute of Microelectronics (IME) and OPUS Microsystems Corporation, a Taiwan-based company specialising in Micro-Electro-Mechanical Systems (MEMS) scanning mirror devices, have signed an agreement to refine and develop a MEMS scanning mirror for smartphones applications. This would enable phones to project photos and videos on any surface, and with no constraints on the viewing screen size on the mobile devices.
2. This project, which signifies OPUS Microsystems' first research partnership and project in Singapore, will build on IME's extensive experience and knowledge in the field of MEMS. IME will lead the process design and development while OPUS Microsystems will contribute in the design of the scanning mirror.
3. MEMS scanning mirror, or micromirror technology, used in light-modulating devices, has undergone rapid technological progress over the years. This has led to the high video and image quality observed in high-definition televisions and more recently, digital cinemas. The market demand for such visual experience expresses itself in portable consumer electronics, such as tablets and mobile phones, in which gaming, photo and video applications have become integral. This technology is expected to be heavily incorporated into the next generation of smartphones.

4. To meet this demand, the two parties will work together on the development of an optimized MEMS scanning mirror which will enable a pico-projector for smartphones applications. Through the project, the two parties aim to achieve a slimmer and smaller MEMS micromirror with high performance offering a compact yet high-resolution pico-projector solution for smartphones. This would ultimately turn any surface into a display.
5. “We are delighted that OPUS Microsystems has chosen IME to be their partner for their first research project in Singapore. The interest in pico-projectors has gained traction in recent years, but the industry challenge remains in achieving a cutting edge technology that will allow the integration of a small-scale projector into smartphones while maintaining a high resolution output. It is an exciting research and development opportunity for IME to be part of such a project that will potentially lead to a technological breakthrough,” commented Prof. Dim-Lee Kwong, Executive Director of A*STAR IME.
6. “We are excited to be partnering with IME on this collaboration,” said Andrew Hung, President of OPUS Microsystems. “IME is a leading semiconductor research institute with vast experience in MEMS. We are confident that the alliance will enable OPUS Microsystems to achieve practical results that will meet its desired device requirements.”

Enclosed: Annex A – [Illustration of How a MEMS Pico-Projector Works](#)

Media Contact:

For A*STAR IME:

Chua Yi Fen

Tel: +65 6770 5378

Email: chuayif@ime.a-star.edu.sg

For OPUS Microsystems:

Connie Lin

Tel: +886 2 27998200 ext 271

Email: connie@opusmicro.com.tw

About A*STAR Institute of Microelectronics (IME)

The Institute of Microelectronics (IME) is a research institute of the Science and Engineering Research Council of the Agency for Science, Technology and Research (A*STAR). Positioned to bridge the R&D between academia and industry, IME's mission is to add value to Singapore's semiconductor industry by developing strategic competencies, innovative technologies and intellectual property; enabling enterprises to be technologically competitive; and cultivating a technology talent pool to inject new knowledge to the industry. Its key research areas are in integrated circuits design, advanced packaging, bioelectronics and medical devices, MEMS, nanoelectronics, and photonics. For more information about IME, please visit <https://www.ime.a-star.edu.sg>.

About Agency for Science, Technology and Research (A*STAR)

The Agency for Science, Technology and Research (A*STAR) is Singapore's lead public sector agency that fosters world-class scientific research and talent to drive economic growth and transform Singapore into a vibrant knowledge-based and innovation driven economy.

In line with its mission-oriented mandate, A*STAR spearheads research and development in fields that are essential to growing Singapore's manufacturing sector and catalysing new growth industries. A*STAR supports these economic clusters by providing intellectual, human and industrial capital to its partners in industry.

A*STAR oversees 20 biomedical sciences and physical sciences and engineering research entities, located in Biopolis and Fusionopolis as well as their vicinity. These two R&D hubs house a bustling and diverse community of local and international research scientists and engineers from A*STAR's research entities as well as a growing number of corporate laboratories.

Please visit www.a-star.edu.sg

About OPUS Microsystems Corporation

Opus Microsystems Corporation is a global leader in developing and delivering innovative mobile projection solutions based on MEMS and semiconductor technologies. Based in Taiwan, Opus Microsystems is devoted to provide energy efficient turnkey solution of MEMS pico-projectors including MEMS scanning mirror, scan display controller IC and optical module design to enable large projected image with high resolution and vivid color for smartphone and various applications. For more information, please visit <http://www.opusmicro.com>.